

# DRAFT ENVIRONMENTAL ASSESSMENT

## RELOCATION AND RECONSTRUCTION OF THE WILKESON ARCH IN WILKESON, WASHINGTON



*Prepared by*  
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October 31, 2001

## **PUBLIC NOTICE**

October 31, 2001

Notification is hereby given of the Federal Emergency Management Agency's (FEMA) intent to provide federal financial assistance to eligible local governments and State agencies proposing projects that repair and mitigate damages from the February 28, 2001 earthquake. The Town of Wilkeson has proposed a project intended to repair the earthquake damaged Wilkeson Arch. The project entails dismantling the remaining western column and reassembling both columns from the original material near the intersection of SR#165 and Hill Street. A new spanning log would be acquired and installed on top of the columns, and the original sign would be hung from the log.

Under the National Environmental Policy Act, FEMA is required to review the proposed action and any viable alternatives for any significant impact to the human environment. FEMA has prepared a draft Environmental Assessment that considers the alternatives of no action, relocation and reconstruction of the arch near the intersection of SR#165 and Johns Road, relocation and reconstruction of the arch near the intersection of SR#165 and Briarhill Boulevard, and the proposed action. Public comment is invited on these and other possible alternatives to the proposed action for incorporation into FEMA's evaluation.

Some of the agencies and organizations that are being contacted for input to the proposed and alternate actions include U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, WA Department of Fish and Wildlife, WA State Office of Archaeology & Historic Preservation, the WA Department of Ecology, and the WA Department of Transportation.

The report will be available to review between October 31, 2001 and November 14, 2001. Written comments will be accepted until November 15, 2001 and should be mailed or faxed to Tom Hay, FEMA-DFO, 625 Black Lake Blvd SW, Suite 200, Olympia, WA 98502; fax number 360-596-3321. Copies of the report are available to the public online at <http://www.fema.gov/mit/ep/assess.htm>, and at the following repositories:

Wilkeson Town Hall  
540 Church Street  
Wilkeson, WA 98396  
POC: Dale Perry  
360-829-0790

Wilkeson Public Library  
540 Church Street  
Wilkeson, WA 98396  
POC: Janet Barclay  
360-829-0513

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*Relocation and Reconstruction of the Wilkeson Arch*

*in Wilkeson, Washington*

Environmental Assessment

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**COMMENT FORM**

If you wish to make a written comment on the Draft Environmental Assessment Report, please use this form. You may send your written comments to Tom Hay, Environmental Specialist, FEMA-DFO, 625 Black Lake Boulevard SW, Suite 200, Olympia, WA, 98502.

Please provide your name, address, and telephone number in the space provided. All written comments must be received by November 16, 2001. Thank you for your interest.

**NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**TELEPHONE:** \_\_\_\_\_

**COMMENTS:** \_\_\_\_\_

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## **1.1 INTRODUCTION**

### **1.1.1 Project Authority**

Pursuant to Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 as amended, the Town of Wilkeson has requested Public Assistance funding from the Federal Emergency Management Agency (FEMA) under Disaster DR-1361-WA. The Town of Wilkeson has applied for funding from FEMA through the Washington Department of Emergency Management (WDEM) to reconstruct a damaged public facility.

The National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR Parts 1500 through 1508), and FEMA regulations for NEPA compliance (44 CFR Part 10) directs FEMA to consider during decision-making, the environmental consequences of proposed Federal actions (projects). In compliance with NEPA and its implementing regulations, FEMA prepared this Environmental Assessment (EA) to analyze potential environmental impacts associated with several alternatives to meet the stated purpose and need.

### **1.1.2 Project Location**

The proposed and alternate sites of the project are located within or just outside the town limits of Wilkeson, in Pierce County, Washington (Figure 1). Wilkeson is located approximately 30 miles south of Seattle, and 15 miles northwest of Mount Rainier National Park in the foothills of the Southern Cascade mountain range.

### **1.1.3 Purpose and Need**

The Town of Wilkeson has requested Federal funding under FEMA's Public Assistance program to reconstruct the Wilkeson Arch. The arch was a public facility listed in the National Register of Historic Places (NRHP), and acted as the portal to the town at the northern-most boundary. The arch was originally constructed in 1926 after a local industrial boom resulting from coalmine and sandstone quarry operations in the early 1900's. Constructed of local materials, the arch consisted of a large wooden horizontal lintel spanning State Road (SR) #165, supported by two sandstone columns. A sign that hung from the lintel greeted motorists: "Welcome Gateway to Carbon Glacier". Departing motorists were told to "Remember Wilkeson". The funding objective of this project is to restore the gateway for the Town of Wilkeson.

The arch was damaged by the Nisqually earthquake of February 28, 2001, and partially demolished after concerns over motorist safety were raised. Currently, only the column on the western side of SR #165 remains in place. The eastern column and greeting sign have been salvaged and stored. The wooden horizontal member, which was severely decayed, was lost. The loss of the arch, a character-defining feature of the town, has adversely affected the identity of Wilkeson. Its reconstruction is intended to reproduce the function of the original arch as the gateway to Wilkeson and the Carbon Glacier.

## **2.1 PROJECT SETTING AND DESCRIPTION OF ALTERNATIVES**

### **2.1.1 Alternative 1 – No Action Alternative**

Under the No Action Alternative, no construction activities would occur. The western column would continue to stand unaltered. The eastern column footer that remains in the intersection of SR #165 and Briarhill Boulevard would not be removed or patched. The salvaged material of the eastern column would remain stockpiled at a nearby quarry. The salvaged sign would remain stored.

East of the original arch site is a residential neighborhood of Wilkeson. West of this site is an abandoned railroad grade, a narrow buffer of vegetation, and the Wilkeson wastewater treatment facility. Wilkeson Creek is approximately 150-feet north of the site and SR #165 bisects the site northwest to southeast.

### **2.1.2 Alternative 2 – Disassemble The Western Column and Reconstruct the Arch Near the Intersection of SR #165 and Hill Street (Proposed Action)**

The Proposed Action would remove the remaining column and the arch would be reconstructed close to the center of town, approximately 60-feet north of the Hill Street intersection with SR #165. This site is approximately 1,500-feet southeast of the original site. The columns would be constructed on land owned by the town and the county. East of the relocation site is a residential neighborhood of Wilkeson. West of the site is the abandoned railroad grade and relatively mature forestland. The arch would be constructed to span SR #165, which runs roughly north to south through the site.

After photo-recordation and documentation, the column that remains standing would be disassembled and moved to the proposed site. The small footer underneath the column would be excavated, replaced with certified clean fill, and seeded with native grasses. The eastern column footer, which remains in place in the middle of Briarhill Boulevard, would be excavated, replaced with clean fill, and patched consistent with local road engineering standards.

At the proposed site, the western column would be reassembled as close to original as possible using the photo-recordation and documentation. The column would be constructed 17-feet from the centerline of the road, pursuant to Washington State Department of Transportation (WSDOT) standards. The column would be further modified with engineering designed to make the column and arch more resilient to affects of earthquakes. This may include filling the hollow core of the column with concrete, or the installation of rebar.

Based on historical photographs, the salvaged eastern column would be reconstructed 17-feet from the centerline of the road, pursuant to WSDOT standards. The column would be further modified with engineering similar to the western column. A sidewalk that runs parallel to SR #165 on the eastern side at this site would be diverted around the column to the outside of SR #165 on town parkland.

A new horizontal cross-member, approximately 30-inches in diameter and 45-feet long would be installed on the columns in similar fashion to the original cross-member.



Lastly, WSDOT engineered safety controls would be installed. This includes appropriate signage and guardrails inside the arch columns. The guardrails would be a minimum of 15-feet from the centerline, pursuant to WSDOT standards.

### **2.1.3 Alternative 3 – Disassemble The Western Column and Reconstruct the Arch Near the Intersection of SR #165 and Johns Road**

The description to relocate the arch near the intersection of Johns Road and SR #165 is similar to the description of the Proposed Action. The remaining column would be removed and the arch would be reconstructed outside of town limits, approximately 60-feet north of the Johns Road intersection with SR #165. This site is approximately 1500-feet northwest of the original site and the northern limit of the town. The town owns the land on either side of SR #165 at this location. East of the relocation site is a recently regenerated Douglass fir stand. To the west is a narrow, mature stand of fir and Western hemlock.

After photo-recording and documentation, the column that remains standing would be disassembled and moved to the proposed site. The small footer underneath the column would be excavated, replaced with certified clean fill, and seeded with native grasses. The eastern column footer, which remains in place in the middle of Briarhill Boulevard, would be excavated, replaced with clean fill, and patched consistent with local road engineering standards.

At the proposed site, the western column would be reassembled as close to original as possible using the photo-recording and documentation. The column would be constructed 17-feet from the centerline of the road, pursuant to WSDOT standards. The column would be further modified with engineering designed to make the column and arch more resilient to affects of earthquakes. This may include filling the hollow core of the column with concrete, or the installation of rebar.

Based on historical photographs, the salvaged eastern column would be reconstructed 17-feet from the centerline of the road, pursuant to WSDOT standards. The column would be further modified with engineering similar to the western column.

A new horizontal cross-member, approximately 30-inches in diameter and 45-feet long would be installed on the columns in similar fashion to the original cross-member.

Lastly, WSDOT engineered safety controls would be installed. This includes appropriate signage and guardrails inside the arch columns. The guardrails would be a minimum of 15-feet from the centerline, pursuant to WSDOT standards.

### **2.1.4 Alternative 4 – Disassemble The Western Column and Reconstruct the Arch at the Intersection of SR #165 and Briarhill Boulevard**

Although this is the original site of the arch, the arch would still require modification in order to comply with WSDOT standards. WSDOT considers the reconstruction of the arch, in any location, a new building project and therefore subject to all applicable right-of-way restrictions (Pers. Com., Bennett). The description to relocate the arch at the intersection of Briarhill Boulevard and SR #165 is similar to the description of the Proposed Action. The town and

county own the lands on either side of SR #165 at this location. East of this site is a residential neighborhood of Wilkeson. West of this site is an abandoned railroad grade, a narrow buffer of vegetation, and the Wilkeson wastewater treatment facility. Wilkeson Creek is approximately 150-feet north of the site and SR #165 bisects the site northwest to southeast.

After photo-recording and documentation, the column that remains standing would be disassembled and reconstructed at the same site, an additional 5-feet outside the centerline. The column would be further modified with engineering designed to make the column and arch more resilient to affects of earthquakes. This may include filling the hollow core of the column with concrete, or the installation of rebar. The small footer underneath the column would be excavated, replaced with certified clean fill, and seeded with native grasses.

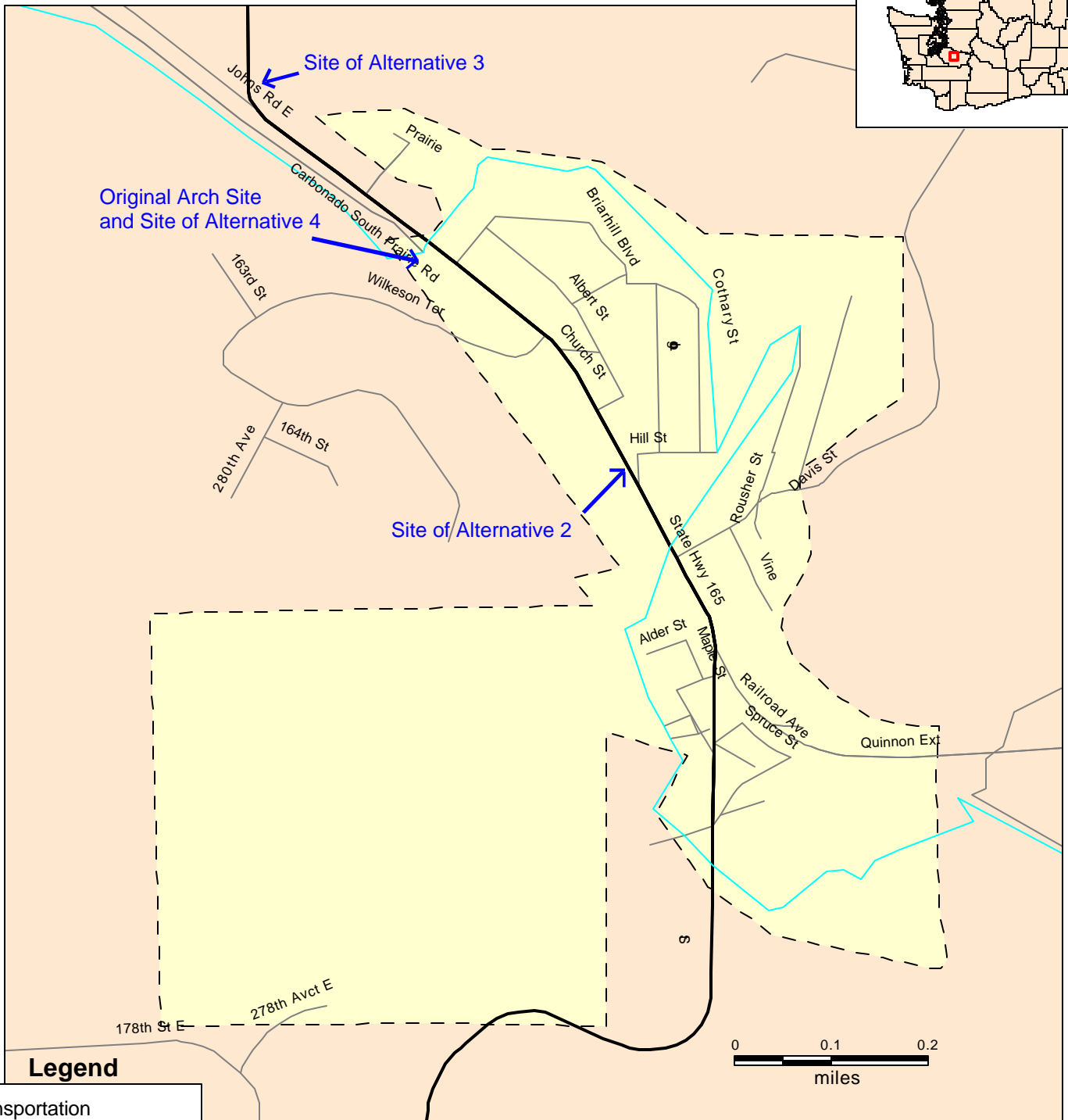
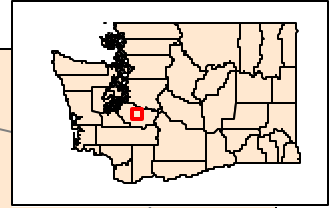
The eastern column footer would be excavated, replaced with clean fill, and patched consistent with local road engineering standards. Using historical photographs, the salvaged eastern column would be reconstructed 17-feet or more from the centerline of the road. Further consultation with WSDOT has been initiated to determine the amount of offset from centerline required. The column would be further modified with engineering similar to the western column.

A new horizontal cross-member, approximately 30-inches in diameter and at least 45-feet long would be installed on the columns in similar fashion to the original cross-member.

WSDOT engineered safety controls would be installed. This includes appropriate signage and guardrails inside the arch columns. The guardrails would be a minimum of 15-feet from the centerline, pursuant to WSDOT standards.

Unlike the other alternatives, traffic circulation patterns would be modified in Wilkeson. Briarhill Boulevard would be converted to a one-way street as recommended by WSDOT. Traffic would be allowed to enter Briarhill Boulevard from SR# 165, but would not be allowed to enter SR #165 from that intersection. The Town of Wilkeson, prior to the selection of this alternative, would conduct a feasibility study addressing the impacts of this conversion. If the study finds adverse effects, the town would be required to reevaluate this alternative as a viable option.

# City of Wilkeson - Pierce County, WA



## Legend

### Transportation

- Roads
- Major Roads
- Major Road Ramps
- Primary Highways
- Primary Ramps
- Secondary Highways
- - - - - Ferry Crossing

### City Boundaries

- Wilkeson
- Rivers



## **SECTION THREE      Affected Environment and Environmental Consequences**

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### **3.1      PHYSICAL ENVIRONMENT**

#### **3.1.1      Geology, Topography, and Soils**

##### ***3.1.1.1 Affected Environment***

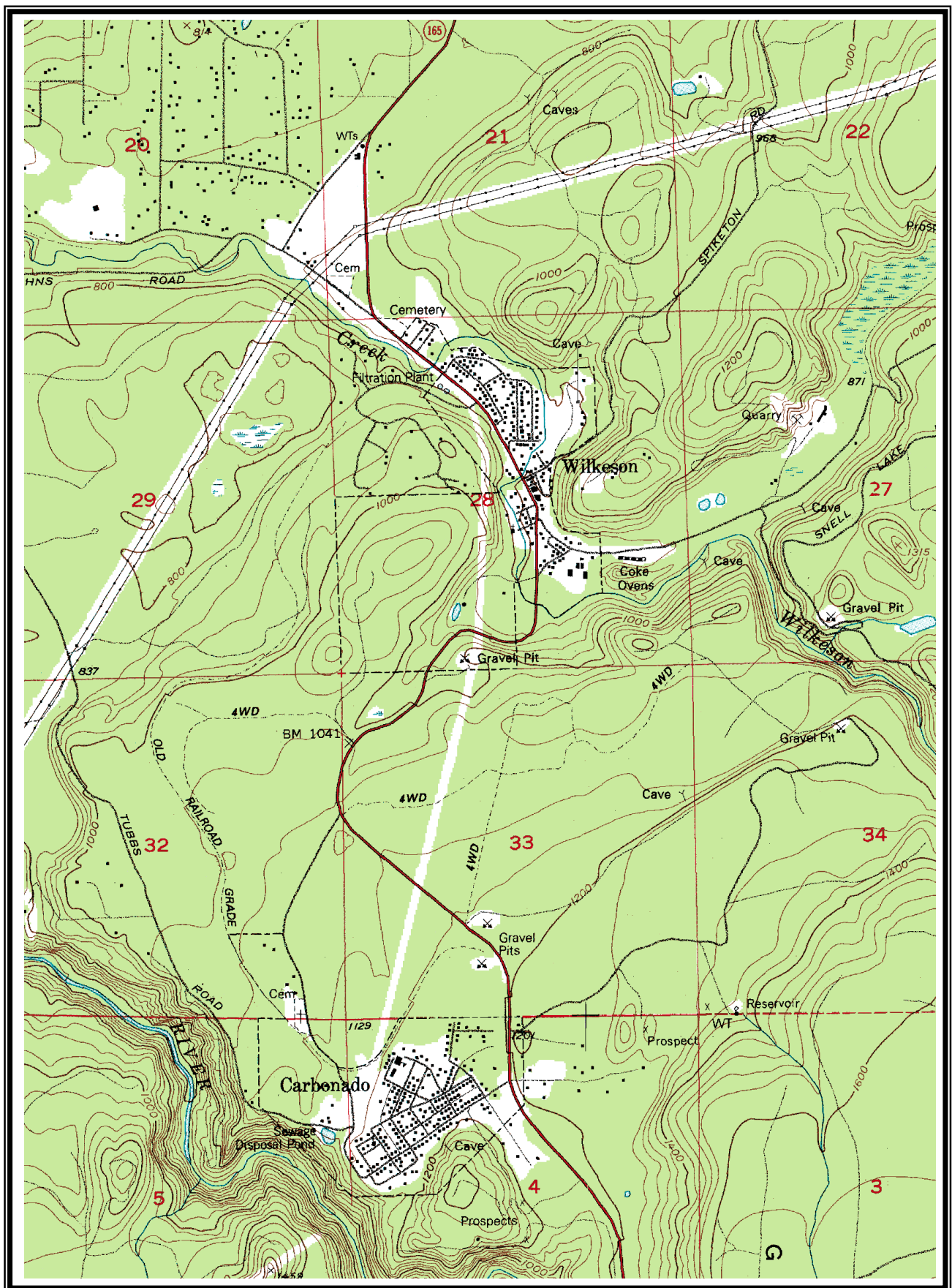
The town of Wilkeson is located within the Puget Lowland physiographic region at its inland extent near the transition to the Southern Cascades mountain region, approximately 15 miles northwest of Mount Rainier. Mapping by Washington State Department of Natural Resources (WSDNR) indicates that Wilkeson is underlain by unconsolidated deposits of Quaternary period sediments resulting from glacial drift and alluvial forces. This geology is typical to most of the Puget Sound region (WSDNR, 2001a).

In general, western Washington is dynamic seismically. Over 10 active faults and 100 inactive faults are suspected. Over 1,000 seismic events are recorded annually in the Puget Lowland alone. The closest known or suspected active fault to Wilkeson is the East Rainier Zone, which is approximately 5-miles from Wilkeson. Several inactive faults are located less than 5-miles to the north and west. Most of the earthquakes that occur within a 50-mile radius of Wilkeson are associated with Mt. St Helens (University of Washington, 2001). The Puget Lowland is within Seismic Risk Zone 3 as delineated by Uniform Building Code (UBC) standards. This classification means there is high risk of damage occurring from a seismic event (WSDNR, 2001b).

The more densely populated portions of Wilkeson are generally flat at approximately 800-feet above mean sea level (AMSL). Wilkeson is located in a valley, a nearly flat corridor that slopes slightly southeast to northwest, containing the bed of Wilkeson Creek. Lining the corridor to the east and west are unnamed peaks and ridges ranging from 1000 to 1200 feet AMSL. Slopes greater than 10 percent are uncommon within the developed parts of Wilkeson. Slopes as great as 30 percent can be found adjacent to the flat corridor (USGS, 1996).

Soils in the flat corridor in and around Wilkeson belong to the Alderwood-Everett Association, and are characterized as moderately well drained, gravelly-sandy loam, formed in glacial till. The association is one of the most extensive soils of the broad uplands of the central part of Pierce County. Weakly cemented substrate as shallow as 36-inches can perch aquifers within 18-inches of the surface after rains. Engineering properties of this soil have been described as moderately restrictive for shallow excavations due to small stones and wetness associated with the cemented pan. Erosion hazard is slight, however, and the primary land use on the association is residential (USDA, 1979).

Prime farmland is defined as land best suited for the production of food, feed, forage, fiber, and oilseed crops. This land is either used for food or fiber crops, or is available for those crops, but is not urban, built-up land or water areas. None of the Action Alternatives would affect prime farmland (Pers. Com., Rasvelik).



USGS 7.5' Topographic Quadrangle: Wilkeson, WA (1994)

## **SECTION THREE      Affected Environment and Environmental Consequences**

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### ***3.1.1.2 Environmental Consequences***

#### ***Alternative 1 – No Action Alternative***

Under the No Action Alternative, the geology, topography, and soils at the site would not be disturbed or altered, and therefore would not be impacted.

#### ***Alternative 2 –Relocation of Arch Near Hill Street (Proposed Action Alternative)***

The Proposed Action Alternative would not result in adverse impacts to geology, topography, or soils.

Although the arch would not be inhabited, it would span a state road. The arch would be reconstructed to UBC standards for structures in Seismic Risk Zone 3 to mitigate the risk to public safety that the arch may pose during future seismic events.

Several hundred square feet of previously disturbed, nearly level roadside soils would be excavated or compacted to install the concrete footers that serve to support the arch. Excavation to bedrock is not anticipated, and the topography would be returned to grade. If excavation to bedrock were to occur, the geology of the site, and Wilkeson at large, would not be adversely impacted. These affects are considered minimal.

During construction, there is potential that exposed soils could be susceptible to erosion. If project activities would include the piling of soil or fill on-site, the project applicant would cover them to prevent fugitive dust and sediments from loading stormwater pathways. The applicant would use silt fencing and/or hay bales to reduce silting of stormwater pathways. Excavation of material directly to trucks is would further reduce silting potential. The staging of construction equipment in existing developed areas, such as paved parking lots and gravel-covered roadside pull-offs adjacent to the action sites, would minimize impacts to soil. After construction activities are concluded, all bare soils would be seeded with native grasses and mulched with straw to prevent future soil erosion.

#### ***Alternative 3 – Relocation of Arch Near Johns Road***

As with the Proposed Action, the effects of relocating the arch near the intersection of Johns Road and SR #165 would be temporary and minimal. The arch would be reconstructed to UBC standards for structures in Seismic Risk Zone 3. Affects to roadside soils, the topography, and geology of the site and Wilkeson in general would be minimal. Appropriate erosion controls would minimize fugitive dust and sedimentation. After construction activities are concluded, all bare soils would be seeded with native grasses and mulched with straw to prevent future soil erosion.

Because there are no paved or graveled staging areas adjacent to this relocation site, construction equipment would require transport to existing, developed staging areas. The daily transport of this equipment would not have additional impacts to geology, topography, or soils.

## **SECTION THREE      Affected Environment and Environmental Consequences**

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### ***Alternative 4 – Relocation of Arch at Briarhill Boulevard***

As with the Proposed Action, the effects of relocating the arch near the intersection of Johns Road and SR #165 would be temporary and minimal. The arch would be reconstructed to UBC standards for structures in Seismic Risk Zone 3. Affects to roadside soils, the topography, and geology of the site and Wilkeson in general would be minimal. Appropriate erosion controls would minimize fugitive dust and sedimentation. Construction equipment would be staged on adjacent developed areas such as gravel-covered roadside pull-offs. After construction activities are concluded, all bare soils would be seeded with native grasses and mulched with straw to prevent future soil erosion.

Because all construction activities would occur at the same site, only one series of erosion control measures would require maintenance. This could further minimize the potential of adverse affects from soil erosion and sedimentation.

### **3.1.2 Water Resources and Water Quality**

#### ***3.1.2.1 Affected Environment***

Wilkeson is near the upstream limit of the Puyallup watershed, which ultimately discharges to the Puget Sound. The watershed contains approximately 979 square miles and is recognized as having better water quality with a low vulnerability to future decline due to potential pollutants and stressors that occur and will occur within the watershed (EPA, 2000a). Of the waters surveyed in the watershed, 80-100 percent are in attainment for designated use. There is a no fish consumption advisory in a part of the watershed, however, and a high level of wetland loss has been experienced throughout the watershed (EPA, 2000b).

Wilkeson Creek and its local tributaries are the only surface water resources within Wilkeson town limits. Wilkeson Creek has been listed as impaired as defined under Section 303d of the Clean Water Act. Parameters of concern include copper and temperature (EPA, 2000c). Subsequent analysis of the waters by the State of Washington have led to recommendations that the stream be taken off the list of impaired waters due to reports of lower copper concentrations (Golding and Johnson, 2001).

The residents of Wilkeson are supplied drinking water via municipal sources derived from local, glacier-fed springs. The town of Wilkeson owns and operates a wastewater treatment plant that discharges to Wilkeson Creek, 4-miles upstream of South Prairie Creek. Stormwater runoff drains directly, without treatment, to Wilkeson Creek.

#### ***3.1.2.2 Environmental Consequences***

### ***Alternative 1 – No Action Alternative***

Under the No Action Alternative, the remaining column and footer would continue to occupy permeable soil space, contributing to stormwater runoff totals. Although stormwater runoff from urban areas can contribute to non-point source pollution (NPS), it is not anticipated that the remaining western column and eastern footer would affect water quality.

## **SECTION THREE      Affected Environment and Environmental Consequences**

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### ***Alternative 2 – Relocation of Arch Near Hill Street (Proposed Action Alternative)***

The proposed relocation and reconstruction of the arch would require the excavation of approximately 5 cubic yards of material. Erosion control measures, such as hay bales or silt fencing, would be in place prior to any excavation. Temporarily, the material may be staged adjacent to the construction site, approximately 300 feet from Wilkeson creek. During or after the construction of the column footers, the excavated material would be disposed of at a facility permitted to accept the material. Given the proximity of the site to the creek, the amount of material to be excavated, and the proper use of erosion control measures, no impact to water resources or water quality is anticipated from sedimentation.

Operation of construction equipment in general carries risks of polluted runoff from inadvertent discharges of fuels and hydraulic fluids. Best Management Practices (BMPs) such as proper maintenance and regular cleaning of equipment would minimize potential affects of pollution associated with heavy machinery. Any and all releases of petroleum fuels and fluids would be contained and removed in a manner that would prevent their discharge to waters and soils of the state. The cleanup of spills would take precedence over other work at the site. Vehicles would be maintained clean of mud, rock, and other material so the tracking of debris onto the highway does not occur.

Any cement remaining after pouring the footers shall be returned to its point of origin for recycling. Cement waste would not be disposed of by allowing it to run out onto the ground.

### ***Alternative 3 – Relocation of Arch Near Johns Road***

Similar to the Proposed Action, the use of erosion control measures and BMPs would minimize effects of sedimentation and pollution to the waters of Wilkeson Creek approximately 200-feet from the relocation site. Any and all releases of petroleum fuels and fluids would be contained and removed in a manner that would prevent their discharge to waters and soils of the state. The cleanup of spills would take precedence over other work at the site. Any cement remaining after pouring the footers would be returned to its point of origin for recycling and would not be disposed of on site. No impacts to water resources or water quality are anticipated from relocating the arch to near the intersection of Johns Road and SR #165.

### ***Alternative 4 – Relocation of Arch at Briarhill Boulevard***

The use of erosion control measures and BMPs would minimize effects of sedimentation and pollution to the waters of Wilkeson Creek. Any and all releases of petroleum fuels and fluids would be contained and removed in a manner that would prevent their discharge to waters and soils of the state. The cleanup of spills would take precedence over other work at the site. Any cement remaining after pouring the footers would be returned to its point of origin for recycling and would not be disposed of on site.

Although this site is only 150-feet from Wilkeson Creek, the closest of all the relocation alternatives, there is little risk of impact to water resources or water quality given proper installation and maintenance of erosion controls. No impacts to water resources or water quality are anticipated from relocating the arch at the intersection of Briarhill Boulevard and SR #165.



## **SECTION THREE      Affected Environment and Environmental Consequences**

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### **3.1.3      Floodplain Management**

#### ***3.1.3.1 Affected Environment***

Executive Order (EO) 11988 requires federal agencies to minimize occupancy and modification to floodplains. Specifically, the EO prohibits federal agencies from funding construction within the 100-year floodplain unless there are no practicable alternatives. FEMA's regulations for complying with EO 11988 are promulgated in 44 CFR Part 9.

The Town of Wilkeson is a participant in the National Flood Insurance Program (NFIP). Floodplains in and near Wilkeson were identified from Flood Insurance Rate Maps (FIRM) for the town and county. All of the floodplains around Wilkeson are adjacent to Wilkeson Creek.

#### ***3.1.3.2 Environmental Consequences***

##### ***Alternative 1 – No Action Alternative***

Under the No Action Alternative, no construction activities would occur and there would be no impact to any floodplain.

##### ***Alternatives 2, 3, and 4 – Proposed and Alternate Action Alternatives***

The FIRM for Wilkeson indicates that Proposed Action and both Alternate Action sites are in Zone C, an area of minimal flooding (FEMA, 1982). The closest floodplain to any of the sites is approximately 150-feet away. Construction activities would not occur in these floodplains and the relocation and reconstruction of the arch would not indirectly impact floodplains by increasing flood velocities or flood elevations upstream or downstream.

### **3.1.4      Air Quality**

#### ***3.1.4.1 Affected Environment***

The Clean Air Act, as amended, requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" pollutants. They include: Carbon Monoxide (CO), Nitrogen Dioxide (NO<sub>2</sub>), Ozone (O<sub>3</sub>), Lead (Pb), Particulate (PM<sub>10</sub>), Particulate (PM<sub>2.5</sub>), and Sulfur Dioxide (SO<sub>2</sub>). Pierce County is in attainment for all six criteria pollutants monitored by the EPA (EPA, 2001a).

## **SECTION THREE      Affected Environment and Environmental Consequences**

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### ***3.1.4.2 Environmental Consequences***

#### ***Alternative 1 – No Action Alternative***

Under the No Action Alternative, no additional air pollutants would be emitted due to construction activity. There would be no impact to air quality under primary or secondary standards.

#### ***Alternative 2 – Relocation of Arch Near Hill Street (Proposed Action Alternative)***

The construction activities that would occur with the Proposed Action Alternative could be a source of fugitive dust emissions that may have temporary impacts to local air quality. Emissions during construction would be associated with ground excavation activities. In order to reduce temporary impacts to air quality, the applicant would be required to water down construction areas when necessary.

Emissions from fuel-burning internal combustion engines (e.g. trucks and heavy equipment) would temporarily increase the levels of some of the criteria pollutants, including CO, NO<sub>x</sub>, and PM-2.5. Volatile organic compounds (VOCs), another product of combustion, would be emitted, potentially elevating local O<sub>3</sub> levels. These increases would be temporary. In order to reduce the emission of criteria pollutants, fuel-burning equipment running times would be kept to a minimum. No long-term impacts to air quality are anticipated as a result of the Proposed Action.

#### ***Alternative 3 – Relocation of Arch Near Johns Road***

Construction activities, as would occur under the Alternate Action Alternative, are a potential source of fugitive dust emissions that may have temporary impacts to local air quality. In order to reduce impacts, the applicant would be required to water down construction areas when necessary. To reduce the emission of criteria pollutants, equipment running times would be kept to a minimum. No long-term impacts to air quality are anticipated as a result of this alternative.

The location of this site outside of town limits, away from more densely populated areas, further reduces the potential of any short-term impacts that may result from fugitive dust or fuel-burning emissions.

#### ***Alternative 4 – Relocation of Arch at Briarhill Boulevard***

As with the other relocation alternatives, the applicant would be required to water down construction areas when necessary and keep equipment running times to a minimum. No long-term impacts to air quality are anticipated as a result of this alternative.

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### **3.2      BIOLOGICAL ENVIRONMENT**

#### **3.2.1      Terrestrial Environment**

Wilkeson is located in rural Pierce County approximately 15-miles northwest of Mount Rainier National Park and Mount Baker-Snoqualmie National Forest. Comprising hundreds of square miles, the quantity and quality of terrestrial habitat on these lands is unparalleled in the county. Within the Puyallup watershed, land use is estimated to be more than 75 percent forested and less than 20 percent urban and agricultural (EPA, 1999).

Land in the vicinity of Wilkeson (1-mile radius) is predominantly forested, with limited urban and agricultural use (USGS, 1996). Some of the forests are actively managed for species such as Douglass fir, Western Red cedar, and Western hemlock. Less managed stands typically include elements of Red alder and Big Leaf maple. Cottonwood is more prevalent in areas with greater moisture. Apple is common along roadways and around old homesteads. Habitats such as these support a variety of mammals including elk, deer, raccoon, chipmunk, chickaree, and marmot. Typical bird species include swallow, goldfinch, and robin. Caves and abandoned mines in the vicinity may support bat and bear.

Priority habitats are those habitat types or elements with unique or significant value to a diverse assemblage of species. Priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element (WDFW, 1999). Approximately 30 percent of the land in the vicinity of Wilkeson is considered priority habitat. This includes priority habitat for elk specifically, and general priority habitat types such as urban natural open space, riparian, and wetland.

The urban habitat of developed Wilkeson is approximately 100 acres, and comprised of approximately 30 percent impermeable surface. Vegetation within the urban habitat is similar to the less disturbed surrounding habitat with elements of fir, cedar, hemlock, and maple. Ornamental trees and shrubs dominate the understory, however, and cultivar grasses are the predominant groundcover. Urban areas typically provide limited habitat, but can support wildlife such as raccoon and crow.

#### ***Alternative 1 - No Action Alternative***

Under the No Action Alternative, no disturbance to the existing terrestrial environment due to construction would occur. There would be no impact to the terrestrial environment. The western column would remain, perhaps providing perch for raptor or songbird. This would be of minimal benefit given the abundance of local perch.

#### ***Alternative 2 – Relocation of Arch Near Hill Street (Proposed Action Alternative)***

The Proposed Action is within the urban and developed part of Wilkeson. Vegetation that would be affected is limited to a couple hundred square feet of cultivar and roadside grasses. The excavation is not anticipated to effect adjacent wooded lands approximately 20-feet from the proposed location of the western column. Wildlife would not be affected. The replacement of this magnitude of roadside groundcover with the arch columns at the proposed location, although

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a permanent adverse affect, is considered minimal given the abundance of that habitat in Wilkeson and eastern Pierce County.

### ***Alternative 3 – Relocation of Arch Near Johns Road***

The relocation of the arch near the intersection of Johns Road and SR #165 would impact nearly equal area of roadside vegetation as the Proposed Action. Approximately 20-feet east of this site is a recently regenerated stand of Douglass fir heavily overgrown with blackberry. Although valuable habitat, the vegetation is not mature enough to occupy the roadside substrate with root-growth. Excavation for the eastern column is not expected to effect this young stand.

West of the site, approximately 20 feet from SR #165, is a moderately mature stand of Douglass fir and Western hemlock. The area between the road and the forest is populated by Oregon olive, a short shrub. Excavation for the western column would require removal of approximately 150 square feet of Oregon olive habitat. Affects would be limited to approximately 10 specimens. One or two mature fir or hemlock may be at-risk if root mass is lost or damaged during excavation activities. Limiting the presence of construction equipment to the road and shoulder would minimize the risk to these trees. If some trees were lost due to construction activities, the impact would be minimal given the density of the stand and abundance of this habitat type in the immediate vicinity.

The replacement of approximately 250 square feet of roadside groundcover with the arch columns, although a permanent adverse affect, is considered minimal given the abundance of roadside groundcover in Wilkeson. Wildlife would not be affected.

### ***Alternative 4 – Relocation of Arch at Briarhill Boulevard***

Reconstructing the arch near its original location would impact approximately equal area of roadside vegetation as relocating the arch elsewhere. West of this site are predominantly cultivar grasses that would be lost due to excavation. Overstory vegetation, approximately 30 feet from the site, would not be effected. East of the site, the arch column would be reconstructed on previously disturbed roadside soils, or on the roadway surface of Briarhill Boulevard itself. If constructed on the roadway, approximately 150 square feet of cultivar grasses would be preserved. Although this is of benefit to the preservation of the terrestrial environment, the quality of habitat that would be preserved is marginal. If vegetation were to be removed, there would be a minimal adverse affect.

## **3.2.2 Wetlands (Executive Order 11990)**

### ***3.2.2.1 Affected Environment***

Executive Order (EO) 11990, Protection of Wetlands, requires Federal agencies to take action to minimize the loss of wetlands. The NEPA compliance process requires Federal agencies to consider direct and indirect impacts to wetlands, that may result from Federally funded actions.

The U.S. Fish and Wildlife Service (USFWS) has identified several wetlands in the vicinity of Wilkeson (USFWS, 2001). They are generally associated with Wilkeson Creek and its related

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ephemeral drainage tributaries. During a reconnaissance site visit of the project area on September 24, 2001 no wetlands were observed in or adjacent to either of the alternate project areas or the original arch site. A letter from the U.S. Army Corps of Engineers (USACE) dated October 1, 2001 indicates the agency is in concurrence with FEMA's wetland assessment.

### ***3.2.2.2 Environmental Consequences***

#### ***Alternative 1 - No Action Alternative***

No construction is proposed for this alternative. Therefore, this alternative would not result in any direct or indirect impacts to wetlands.

#### ***Alternatives 2, 3, and 4 – Proposed and Alternate Action Alternatives***

Under all of the Action Alternative, no construction activities would occur in a wetland and there would be no indirect impact to any wetland.

The closest wetland to any of the sites is approximately 150-feet away. Construction activities would not occur in these wetlands and, given the nearly level terrain and the implementation of BMPs, sedimentation of excavated and staged material from would not enter any wetlands.

### **3.2.3 Threatened and Endangered Species**

The Endangered Species Act (ESA) of 1973 and the Fish and Wildlife Coordination Act, as amended, requires Federal agencies to determine the effects of their actions on threatened and endangered species of fish, wildlife, and plants, and their habitats, and take steps to conserve and protect these species.

In Pierce County, 6 threatened or endangered species have been identified as potentially occurring. A Biological Assessment (BA) conducted by FEMA is in Appendix B. In coordination with the USFWS, National Marine Fisheries Service (NMFS), and Washington Department of Fish and Wildlife (WDFW), it was concluded that none of the Action Alternatives would affect threatened or endangered species.

## **3.3 HAZARDOUS MATERIALS**

### **3.3.1 Affected Environment**

The EPA does not identify any State or Federal Superfund sites within the Puyallup watershed (EPA, 2001b). Within 1-mile of Wilkeson, there is only 1 facility permitted under the Resource Conservation and Recovery Act (RCRA) (EPA, 2001c). Of the hazardous materials sites identified by the EPA, there is low potential that they contribute to any ambient hazardous material presence in Wilkeson.

During a reconnaissance level survey for hazardous materials and wastes in the project vicinity on September 24, 2001, no indications of hazardous materials were observed. No subsurface hazardous material testing was conducted as a part of this EA. Based on the present uses of the

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sites: urban residential, adjacent to roadways, adjacent to forested land, and adjacent to railroad right-of-way, only the railroad right-of-way would have probable potential to contain subsurface hazardous materials.

Industrial activities in Wilkeson in the early 1900's included stone quarry and coal mining operations. These goods were transported to the coastal ports of Tacoma and Seattle via rail. The railroad line ran parallel to SR #165 through most of town, but has since been abandoned and removed. Hazardous materials that may be related to such operations, such as fuels and bricks of coal or coke, are either quite volatile or relatively inert. The presence of fuel-tainted soils adjacent to the abandoned railroad is not anticipated after several years of natural bio-remediation. Excavating coal or coke is not expected to lead to additional contamination of waters or soils.

### **3.3.2 Environmental Consequences**

#### ***Alternative 1 - No Action Alternative***

Under the No Action Alternative, no potentially hazardous materials would be excavated due to construction. There would be no impact to or from hazardous materials.

#### ***Alternatives 2, 3, and 4 – Proposed and Alternate Action Alternatives***

Under the Proposed Action Alternative, no affects from hazardous materials or wastes are anticipated. Although subsurface hazardous materials are not anticipated to be present, excavation activities could expose or otherwise affect subsurface hazardous wastes or materials. Any hazardous materials discovered, generated or used during implementation of the Proposed or Alternate Actions would be handled and disposed of by the applicant in accordance with applicable local, state, and Federal Regulations.

## **3.4 SOCIOECONOMICS**

### **3.4.1 Zoning and Land Use**

#### ***3.4.1.1 Affected Environment***

Zoning in Wilkeson is under the jurisdiction of the Wilkeson Town Council. The town comprises approximately 315 acres. Open space is the predominant land use within town limits, with some residential and commercial lands. A large tree farm, owned by the town and managed for water quality, comprises the southern half of town. Industry, primarily timber and quarried goods, is located on lands outside of town limits.

Land immediately outside of town jurisdiction is zoned by Pierce County Rural 10 (R10), which allows for 1-2.5 residences per 10-acres.

According to the Pierce County Assessor-Treasurer's Office, the Town of Wilkeson, Pierce County, and the State of Washington own the tracts of land related to this project (Pierce County,

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2001). The ownership, zoning, and current land use for the original arch site and the proposed and alternate relocation sites are summarized in Table 1. Roadways are not assigned Tract numbers.

**Table 1: Summary of Land Use and Ownership**

**SR #165 at Briarhill Boulevard**

	Tract #	Ownership	Zoning	Land Use
Eastern Column		Town	Roadway	Roadway
Western Column	0619282084	County	Railroad Right-of-way	Roadside grasses; Vacant except for column
Wooden Lintel		State	Roadway	Roadway

**SR #165 Near Hill Street**

Eastern Column	0619282060	Town	Highway and Street Right-of-way	Municipal Park
Western Column	0619282084	County	Railroad Right-of-way	Vacant
Wooden Lintel		State	Roadway	Roadway

**SR #165 Near Johns Road**

Eastern Column	0619212023	Town	Undeveloped	Recently Harvested Tree Farm
Western Column	0619213024	Town	Vacant Land, Residential	Forested
Wooden Lintel		State	Roadway	Roadway

In addition, WSDOT claims right-of-way jurisdiction over all lands within 30-feet of the centerline of a state road. Inside town limits, Qwest Communications International claims right-of-way on the western side of SR #165 for underground telephone lines. Qwest and Puget Sound Energy claim right-of-way on the eastern side of SR #165 for overhead telephone and power lines. The Town of Wilkeson claims right-of-way on the eastern side of SR #165 for underground water supply mains.

### ***3.4.1.2 Environmental Consequences***

#### ***Alternative 1 – No Action Alternative***

Under the No Action Alternative, land use within the town would remain unchanged. The western column would remain standing in the WSDOT right-of-way, and would be allowed to

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remain as long as its structural integrity did not compromise traffic safety. No other right-of-ways would be affected. Zoning and land use would not be affected.

### ***Alternative 2 – Relocation of Arch Near Hill Street (Proposed Action Alternative)***

The Proposed Action would be located within Wilkeson town limits on lands owned by the town, county, and state. Permissions and/or land acquisition from the county and state would be obtained prior to the initiation of construction activities. Construction would occur on lands subject to WSDOT, Qwest, Puget Sound Energy, and Town of Wilkeson right-of-ways. Land use at the original site would be converted from vacant land occupied with column, to vacant land. Land use at the relocation site would be converted from vacant roadside land and municipal park to the new site of the Wilkeson Arch. The conversion of vacant land to the site of the arch is considered a benefit given the limited utility of vacant land, and the value of the arch as a cultural resource. Zoning permits for the relocation of the arch would not be required (Pers. Com., Perry). Construction activities would be performed consistent with right-of-way easements.

### ***Alternative 3 – Relocation of Arch Near Johns Road***

At the Johns Road relocation site, the Town of Wilkeson owns land on both sides of SR #165. Construction would occur on lands subject to WSDOT right-of-ways. Qwest maintains underground utility lines on the west side of SR #165. Land use at the original site would be converted from vacant land occupied with column, to vacant land. Land use at the relocation site would be converted from vacant roadside land to the new site of the Wilkeson Arch. The conversion of vacant land to the site of the arch is considered a benefit. Zoning at this site is under the jurisdiction of Pierce County, and reconstruction of the arch at this location would require a special zoning exemption for constructing a facility within 25-feet of the road (Pierce County, 1999). Construction activities would be performed consistent with right-of-way easements.

### ***Alternative 4 – Relocation of Arch at Briarhill Boulevard***

The Town of Wilkeson, Pierce County, and the State of Washington currently own land at the Briarhill Boulevard site. Private land owners are immediately adjacent to the site, north and south of Briarhill Boulevard. Permissions and/or land acquisition from the county and state would be acquired prior to the initiation of construction activities. Land use at the relocation site would be converted from roadway and land containing the remaining column, to the site of the new Wilkeson Arch. Conversion of vacant land to the new site of Wilkeson Arch is considered a benefit. The benefit of converting viable roadway to the new Wilkeson Arch site is undetermined. Zoning permits for the relocation and reconstruction of the arch would not be required (Pers. Com., Perry). Construction activities would be performed consistent with current right-of-way easements.



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### **3.4.2    Visual Resources**

#### **3.4.2.1 *Affected Environment***

Visual resources refer to the landscape character (i.e. what is seen), visual sensitivity (i.e. human preferences and values regarding what is seen), scenic integrity (i.e. degree of intactness and wholeness in landscape character), and landscape visibility or viewscape (i.e. relative distances of seen areas) of a geographically defined viewshed (places from which an element may be viewed).

Wilkeson has character. Just over an hour travel from the city of Seattle is a small, rural, historic community in the predominantly forested foothills of Mount Rainier. Elements within town include natural features such as vegetation and topography common to the foothills, and man-made features such as buildings, roads, bridges, and overhead utility lines. Within town are dozens of historic structures with varying degrees of integrity. Mt. Rainier is the dominant landscape feature throughout much of Pierce County. Due to intervening vegetation, Mt. Rainier is not visible from the original arch site or any of the action alternative sites.



View of downtown Wilkeson showing historic and rustic character of the town

The rustic character of Wilkeson is appealing to visitors and residents alike. Mount Rainier, a destination for many who pass through Wilkeson, is an attraction that draws nature lovers and outdoor recreation seekers. The character of Wilkeson is generally consistent with outdoor

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adventure, a preserved urban oasis on the edge of the backcountry. Before its removal, the arch was the portal to this rustic community in the hills. Some would identify it as the portal to the experience of Mount Rainier itself.



View of downtown Wilkeson showing representative visual resources

The integrity of the historic landscape is moderately preserved, with some infill of more modern buildings. Near Town Hall the historic setting is relatively well preserved. Radiating from this point, the historic character of the town declines. Natural elements (vegetation, land use, topography) as they currently exist outside developed Wilkeson, are moderately disturbed due to logging.

Topography, vegetation, and buildings limit the viewscape from most points within Wilkeson. The steep slopes that border Wilkeson on all sides (Section 3.1.1) limit all views to less than 1,500 feet. The only exceptions to this are the mountains of the Southern Cascade Range to the east. Abundant forested land, moderately dense urban tree improvements, and commercial or residential structures further limit views to visual resources. The areas within Wilkeson from which the viewscape is greatest are generally associated with the corridor along SR #165.

Within the viewshed of an object are all areas from which that object can be seen. Mount Rainier, for instance, has a very large viewshed. A description of the viewshed and analysis of impacts associated with the Action Alternatives is given in Section 3.5.1.

The arch itself was a positive aesthetic element in Wilkeson. The structure was massive, similar to the proportions of a small bridge. To those who identify themselves closely with Wilkeson,

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the loss of the arch has adversely affected the viewscape, and therefore the integrity of Wilkeson. Although none of the action alternatives will replicate the visual resource to pre-disaster conditions, the Proposed and Alternate Action alternatives would reproduce some of the original affects of the arch.

### ***3.4.2.2 Environmental Consequences***

#### ***Alternative 1 – No Action Alternative***

The No Action Alternative would not introduce or remove any elements into the viewshed, and there would be no change to the viewscape as it currently exists. The appealing rustic and natural character of Wilkeson at large would not be affected. Although the portal effect of the arch would be lost, a monument-like column would remain on SR #165 at the entrance to town limits. This would serve as a memorial to the Nisqually earthquake in particular, and representative of the seismic heritage of the region. If this were considered an adverse affect, it would decrease with decreasing familiarity of the town, and with the passage of time.

#### ***Alternative 2 – Relocation of Arch Near Hill Street (Proposed Action Alternative)***

The Proposed Action would attempt to preserve elements of the arch. The columns would be constructed with the original stones and the original masonry patterns would be recreated based on historical photographs. Although some elements of the columns may change, both columns would be reconstructed at the same time and in similar fashion. Pursuant to WSDOT standards, the proportions of the arch would require modification. The arch, reconstructed at this location, would increase in span from 22-feet to 34-feet. Although the arch would no longer be the portal to Wilkeson at the town limits, it would continue to be the gateway to the more historic elements that exist towards the center of town.

#### ***Alternative 3 – Relocation of Arch Near Johns Road***

Relocating the arch near the intersection of Johns Road and SR# 165 would attempt to preserve elements of the arch. The columns would be constructed with the original stones and the original masonry patterns would be recreated based on historical photographs. Although some elements of the columns may change, both columns would be reconstructed at the same time and in similar fashion. Pursuant to WSDOT standards, the proportions of the arch would require modification. The arch, reconstructed at this location, would increase in span from 22-feet to 34-feet. Although the arch would no longer be the portal to Wilkeson at the town limits, it would continue to be the gateway to the town at large.

#### ***Alternative 4 – Relocation of Arch at Briarhill Boulevard***

Reconstruction of the arch at Briarhill Boulevard would preserve some of the elements of the arch at the sacrifice to others. Although the arch would remain in the approximate original location, the arch would be displaced an additional 4-feet on the eastern side because of its proximity to the intersection, a total of 21-feet from the centerline (Pers. Com., Bennet). If it was desired to have the arch span SR# 165 symmetrically, the span would be increased to

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approximately 42-feet, almost double the original span. The impact of the trade-off between preserving the appearance of the arch and preserving the location of the arch is based on personal preference. The magnitude of the impact decreases with decreasing familiarity of the arch, the passage of time.

### **3.4.3    Noise**

#### ***3.4.3.1 Affected Environment***

Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses.

Noise, defined herein as undesirable sound, is federally regulated by the Noise Control Act (NCA) of 1972. Although the NCA gives the EPA authority to prepare guidelines for acceptable ambient noise levels, it only charges those federal agencies that operate noise-producing facilities or equipment to implement noise standards. The EPA's guidelines, and those of many federal agencies, state that outdoor sound levels in excess of 55 dB DNL are "normally unacceptable" for noise-sensitive residential land use.

Although Wilkeson is a small town, local logging and quarry operations require regular trucking of such material through town, a noticeable disturbance.

Noise associated with the proposed project would be emitted from mechanical equipment used in the excavation, relocation, and reconstruction of the arch. Typical excavation operations may generate noise levels up to 100 dB or more. In comparison, heavy traffic is approximately 78 dB and an ambulance siren is approximately 120 dB. Noise levels change, however, with distance from the source. The noise from a gradeall earthmover is 94 dB from a distance of 10-feet, while only 82 dB from 70-feet away (ELB & Associates, 1997).

#### ***3.4.3.2 Environmental Consequences***

##### ***Alternative 1 – No Action Alternative***

Under the No Action Alternative, there would be no additional noise due to construction activities. Ambient noise levels would not be affected.

##### ***Alternative 2 – Relocation of Arch Near Hill Street (Proposed Action Alternative)***

Under the Proposed Action Alternative, the operation of trucks, excavating equipment, and other heavy machinery would create additional noise in Wilkeson. These levels of noise would be consistent with common construction practices. Construction would take place during normal business hours and noise impacts would be temporary. It is not anticipated the DNL for residential areas would be exceeded.

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### ***Alternative 3 – Relocation of Arch Near Johns Road***

Under the Action Alternative, levels of noise would be consistent with common construction practices. Construction would take place during normal business hours and noise impacts would be temporary. The location of the site outside of town would further reduce any impacts that may occur from increases in noise levels.

### ***Alternative 4 – Relocation of Arch at Briarhill Boulevard***

Under the Action Alternative, levels of noise would be consistent with common construction practices. Construction would take place during normal business hours and noise impacts would be temporary. The location of the site at the edge of town would further reduce any impacts that may occur from increases in noise levels.

## **3.4.4      Public Services and Utilities**

### ***3.4.4.1 Affected Environment***

Although there are no full-time fire and rescue positions serving Wilkeson, a volunteer staff of 7 maintains a firehouse and equipment within town limits. Wilkeson also provides police service, with 10 reserve officers employed. Electricity is provided to Wilkeson by Puget Sound Energy, and is predominantly distributed by overhead lines. Phone service is maintained by Qwest Communications International, and distributed by overhead and underground lines. Water and wastewater services are provided by the Town of Wilkeson, distributed by 8 and 12-inch underground lines. There is no public transportation in Wilkeson.

### ***3.4.4.2 Environmental Consequences***

### ***Alternative 1 – No Action Alternative***

No excavation or construction would occur. Public services and utilities would not be affected. The remaining column, if made unstable by another event, could have the potential to affect public services if it were to block traffic. This effect would be temporary.

### ***Alternative 2 – Relocation of Arch Near Hill Street (Proposed Action Alternative)***

The excavation that would occur under the Proposed Action would be in close proximity to electric, phone, and water main lines. The reconstruction of the arch in this location would require elevating overhead phone lines an additional 6-10 feet to accommodate the height of the arch. Before excavation occurs, the applicant would contact all utility providers that may be affected. The loss of electric, phone, or water is not anticipated. Temporary sidewalk closure would occur, requiring alternate pedestrian routes. These effects are temporary and minimal.

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### ***Alternative 3 – Relocation of Arch Near Johns Road***

Relocating the arch near Johns Road has less potential to disturb public utilities than the Proposed Action. No overhead utility lines are present at this site. Pedestrian traffic is minimal. The Town of Wilkeson and Qwest maintain underground water and phone lines on the eastern and western sides of SR #165, respectively. Before excavation occurs, the applicant would contact all utility providers that may be affected. The loss of electric, phone, or water, while not anticipated, would be a temporary adverse affect.

### ***Alternative 4 – Relocation of Arch at Briarhill Boulevard***

Reconstructing the arch at this site has less potential to disturb public utilities than the Proposed Action. Although overhead lines exist at this site, they are already directed around the original arch site. Reconstructing the arch at this location would not require relocation of the overhead lines. The Town of Wilkeson and Qwest maintain underground water and phone lines on the eastern and western sides of SR #165. Before excavation occurs, the applicant would contact all utility providers that may be affected. The loss of electric, phone, or water, while not anticipated, would be a temporary adverse affect.

## **3.4.5 Traffic and Circulation**

### ***3.4.5.1 Affected Environment***

The town maintains the majority of the streets in Wilkeson. These streets are typically limited to local residential traffic. The main artery through Wilkeson, SR #165, is maintained by the State, and carries all through traffic. Traffic volume is comprised primarily of local residents, with some tourist traffic and commercial trucking of local resources.

### ***3.4.5.2 Environmental Consequences***

### ***Alternative 1 – No Action Alternative***

Under the No Action Alternative, no additional traffic volume would be experienced in Wilkeson due to construction. Traffic patterns would not be affected due to roadside construction. Road closure may occur, however, if the remaining column were to fail as a result of some future event. This would be temporary and effect residential, tourist, and commercial traffic equally.

### ***Alternative 2 – Relocation of Arch Near Hill Street (Proposed Action Alternative)***

The Proposed Action Alternative may effect traffic circulation during site preparation and construction. The effect to traffic would be limited to increased volume and trucks traveling to the site, and temporary traffic circulation disturbance during disassembly, relocation, and reconstruction of the arch. At no time would SR #165 be completely closed to traffic. These effects are considered temporary and minimal. Those who travel in Wilkeson frequently would be most affected.

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### ***Alternative 3 – Relocation of Arch Near Johns Road***

The relocation of the arch near Johns Road may effect traffic circulation during site preparation and construction. The effect to traffic would be limited to increased volume and trucks traveling to the site, and temporary traffic circulation disturbance during disassembly, relocation, and reconstruction of the arch. At no time would SR #165 be completely closed to traffic. These effects are considered temporary and minimal. Because the site is at the edge of town, local traffic would be less effected than under the proposed alternative.

### ***Alternative 4 – Relocation of Arch at Briarhill Boulevard***

The reconstruction of the arch at Briarhill Boulevard may effect traffic circulation during site preparation and construction. The effect to traffic would be limited to increased volume and trucks traveling to the site, and temporary traffic circulation disturbance during disassembly, relocation, and reconstruction of the arch. At no time would SR #165 be completely closed to traffic. These affects are considered temporary and minimal. Because the site is at the edge of town, local traffic would be less effected than under the proposed alternative.

In addition, as proposed by WSDOT, Briarhill Boulevard would be converted from bi-directional traffic to one-way. This has the potential to effect ease of departure from the Briarhill Boulevard neighborhood for approximately 20 residences. A traffic study, conducted by the town, would be required to assess the impacts of changing traffic patterns. If it were concluded that changing the traffic patterns would have a significant impact, the applicant would be required to re-evaluate the viability of this alternative.

### **3.4.6 Environmental Justice**

#### ***3.4.6.1 Affected Environment***

Executive Order (EO) 12989, entitled “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”, directs Federal agencies to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low income populations in the United States...”. In compliance with FEMA’s policy implementing EO 12898, Environmental Justice, the socioeconomic conditions and potential effects related to the No Action, Proposed Action and Alternate Action have been reviewed.

The demographics of Wilkeson, Pierce County, and the State of Washington are summarized below:

**Table 2: Selected Demographics of Wilkeson,  
Pierce County, and Washington State (US Census, 2001)**

	Town of Wilkeson	Pierce County	State of Washington
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Total Population (2000)	395	700,820	5,894,121
% Change since 1990	7.9	19.6	21.1
<b>Minority Status (2000)</b>			
One Race	97.0	94.9	96.4
White	95.9	78.4	81.8
American Indian and Alaska Native	1.0	1.4	1.6
Asian	0.0	5.1	5.5
Black or African American	0.0	7.0	3.2
Two Or More Races	3.0	5.1	3.6
<b>Poverty Status (1989)</b>			
Median Income	\$33,125	\$18,041	\$27,016
% Below Poverty Level	4.1	11.4	10.9

Although the population of Wilkeson has not expanded at the same rate as Pierce County and the State of Washington, there are significantly fewer poverty and minority populations in Wilkeson than the county and state as a whole.

### ***3.4.6.2 Environmental Consequences***

#### ***Alternatives 1, 2, 3, and 4 – No Action, Proposed, and Alternate Action Alternatives***

None of the alternatives addressed by this EA would have disproportionate or adverse effects on any low-income or minority populations. Wilkeson does not contain disproportionate low-income or minority populations in comparison to the county and state. Additionally, any affect that may result would effect all populations equally.

### **3.4.7 Safety and Security**

#### ***3.4.7.1 Affected Environment***

Safety and security issues that have been considered in this EA include the health and safety of the area residents, the public at-large, and involved in activities related to the implementation of the proposed relocation of the Wilkeson Arch.



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### ***3.4.7.2 Environmental Consequences***

#### ***Alternative 1 – No Action Alternative***

The No Action Alternative has minimal potential to adversely affect the population of the study area. The No Action Alternative does not involve the employment of personnel to reconstruct the arch. There would be no potential risks to their personal safety. The remaining column that stands on the western side of SR #165 would remain a potential safety hazard as assessed by WSDOT.

#### ***Alternative 2 – Relocation of Arch Near Hill Street (Proposed Action Alternative)***

Under the Proposed Action Alternative, construction activities could present safety risks to those performing the activities. In order to minimize risks to safety and human health, all construction activities would be performed using qualified personnel trained in the proper use of the appropriate equipment including all appropriate safety precautions. Additionally, all activities would be conducted in a safe manner in accordance with the standards specified in Occupational Safety and Health Act (OSHA) regulations.

Safety measures to mitigate potential impacts include employing appropriate signage and fencing. The appropriate signage and barriers should be in place prior to construction activities in order to alert pedestrians and motorists of project activities, and changes in traffic patterns.

The relocation of the arch at this would provide the additional benefit of an alternate route for emergency equipment around the arch should it cause future road closure.

#### ***Alternative 3 – Relocation of Arch Near Johns Road***

As under the Proposed Action, all construction activities would be performed using qualified personnel trained in the proper use of the appropriate equipment including all appropriate safety precautions. All activities would be conducted in a safe manner in accordance with the standards specified in Occupational Safety and Health Act (OSHA) regulations. The appropriate signage and barriers would be in place prior to construction activities in order to alert pedestrians and motorists of project activities, and changes to traffic patterns.

#### ***Alternative 4 – Relocation of Arch at Briarhill Boulevard***

As under the Proposed Action, all construction activities would be performed using qualified personnel trained in the proper use of the appropriate equipment including all appropriate safety precautions. All activities would be conducted in a safe manner in accordance with the standards specified in Occupational Safety and Health Act (OSHA) regulations. The appropriate signage and barriers would be in place prior to construction activities in order to alert pedestrians and motorists of project activities, and changes to traffic patterns.

The reconstruction of the arch near the original location includes modification of the arch span to meet WSDOT safety standards. The dimensions of the arch and traffic circulation patterns would be engineered to ensure motorist safety.

## **SECTION THREE      Affected Environment and Environmental Consequences**

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### **3.5      CULTURAL RESOURCES**

Cultural resources refer to historic properties such as buildings, structures, districts, objects, and archeological sites included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). Based on a query submitted to the Office of Archaeology and Historic Preservation (OAHP), there are four National Register-listed historic architectural resources in Wilkeson: Holy Trinity Orthodox Church, Walker Cut Stone Company, Wilkeson School, and the Wilkeson Coke Ovens. In addition, there are two state-listed resources in Wilkeson: Martha Washington Hotel, and the John Pete Homestead. All of these resources, except Holy Trinity Orthodox Church, are located south of Wilkeson Creek and outside of any of the project areas associated with the relocated arch.

Wilkeson Arch was listed in the National Register prior to the Nisqually Earthquake. After the arch was partially demolished, it was de-listed from the National Register due to loss of integrity. The Washington SHPO was in concurrence. The rebuilt arch, although not a reconstruction to original specifications, will reflect much of the original arch's physical characteristics.

An assessment of impacts of the relocation and reconstruction of the Wilkeson Arch on historic properties requires the establishment of an Area of Potential Effect (APE) for each location. The APE is the area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. Examples of impacts upon a historic property include, but is not limited to: destruction, damage, or alteration of a property; change to features within a property's setting that contributes to its historic significance; or the introduction of visual elements that diminish the integrity of the property.

#### **3.5.1      Affected Environment**

##### ***3.5.1.1 Determination of APE***

The APE for the proposed relocation and reconstruction of the Wilkeson Arch includes the limits of disturbance associated with the construction, as well as areas that may experience changes in character, appearance, or association of historic properties to their surroundings. These alterations may include changes to the setting of historic properties resulting from the proposed arch relocation.

Once reconstructed, the arch would be the same height as the original arch, approximately 28-feet tall. Although the arch may be visible from distances as great as 1,000-feet (Section 3.4.2), its presence in the landscape at distances greater than 300-feet is minimal. Further restricting the APE is the presence of vegetation and buildings that obstruct or compromise visibility to the arch.

For archaeological resources, the APE for the proposed improvements includes all areas of ground disturbance.

## **SECTION THREE**      **Affected Environment and Environmental Consequences**

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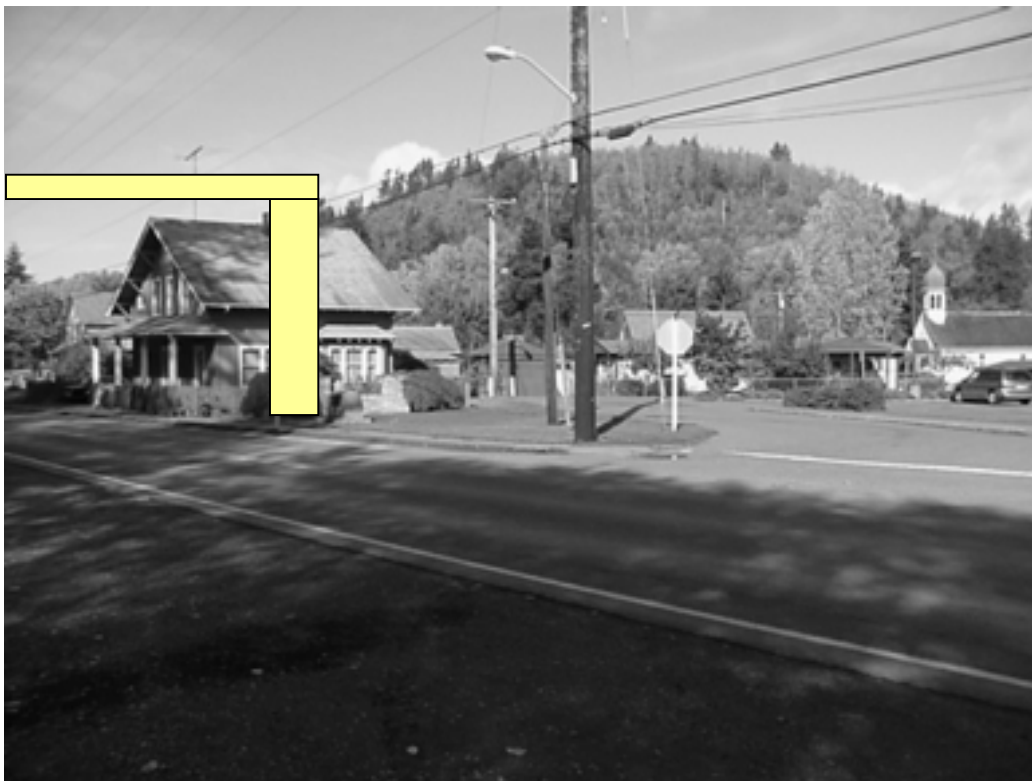
### ***3.5.1.2 Historic Architectural Resources Within the APE***

#### **3.5.1.2.1 Resources Near the Intersection of Hill Street and SR #165**

To the east of the Proposed relocation site is a small, triangular memorial park, the Wilkeson firehouse, and modest one and two-story single-family dwellings in a suburban-like setting. The Wilkeson firehouse is a modern structure, and the dwellings range in date from the early 20<sup>th</sup> century to more recent ranch house designs. A circa 1920's bungalow is located just north of the memorial park, within 50-feet of the proposed relocation site.

The Holy Trinity Orthodox Church (NR-89001606) is located at 433 Long Street in Wilkeson, approximately 300-feet northeast of the proposed relocation site. It was constructed in 1910, and was listed in the National Register in 1989 for its significance of ethnic heritage and architecture.

The image below depicts an approximation of the arch in relation to the bungalow and Orthodox Church. The church is visible on the right.



View showing approximate location and scale of arch, residence most likely to be affected by arch, and only NRHP-listed resource in the vicinity of the site

#### **3.5.1.2.2 Resources Near the Intersection of Johns Road and SR #165**

No buildings or structures are visible from this relocation site. Therefore, no buildings or structures are within the APE. The arch would be visible, however, from a small cemetery at the

## **SECTION THREE      Affected Environment and Environmental Consequences**

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northwest extreme of Wilkeson. In general, cemeteries are not considered historic resources for the purposes of the National Register.

### **3.5.1.2.3      Resources Near the Intersection of Briarhill Boulevard and SR #165**

To the east of this relocation site is a mid-20<sup>th</sup> century gas station bordering the eastern side of SR #165. Modest one and two-story single-family dwellings in a suburban-like setting are located more than 100-feet off of SR #165 to the east. These dwellings vary in age, and date from the early 20<sup>th</sup> century to more recent ranch house designs.

### ***3.5.1.3 Archeological Resources Within the APE***

There are no known pre-historic archeological resources within Wilkeson. Artifacts that may potentially be excavated would likely come from the industrial era of Wilkeson that dates to the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. None of the Action Alternatives are considered to have a higher probability to yield archeological resources.

## **3.5.2      Environmental Consequences**

### ***Alternative 1 – No Action Alternative***

No construction activities would occur under this alternative. No elements would be introduced to or removed from the APE. There would be no effect to resources near the intersection of Briarhill Boulevard and SR #165.

No ground disturbance would occur. No archeological resources would be disturbed or impacted.

### ***Alternative 2 – Relocation of Arch Near Hill Street (Proposed Action Alternative)***

Activities would occur at both the original arch site and the proposed relocation site under this alternative. The monument-like western column would be removed and the Wilkeson Arch would be constructed near the intersection of Hill Street and SR #165.

The modest one and two story single family dwellings located off Briarhill Boulevard and mid-20<sup>th</sup> century gas station near the original arch location do not appear to be architecturally significant. As a result, the removal of the remaining column would not have any impact to architectural resources.

The Holy Trinity Orthodox Church lies approximately 300-feet from the site and is considered to be outside the APE for this proposed relocation site. The older residential dwellings in the APE, including the circa 1920's bungalow, do not appear to be architecturally significant. As a result, there would be no impacts to architectural resources under this alternative.

Excavation activities are not anticipated to disturb archeological resources. However, in the event historically or archeologically significant materials (or evidence thereof) are discovered during the implementation of the project, the project shall be halted until such time as FEMA, in

## **SECTION THREE      Affected Environment and Environmental Consequences**

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consultation with the State Historic Preservation Office, can determine the effect the action will have on the resource.

### ***Alternative 3 – Relocation of Arch Near Johns Road***

Activities would occur at both the original arch site and the proposed relocation site under this alternative. The monument-like western column would be removed and the Wilkeson Arch would be constructed near the intersection of Johns Road and SR #165.

The buildings near the original arch location do not appear to be architecturally significant. As a result, the removal of the remaining column would not have any impact to architectural resources.

Because no historic architectural resources exist within the APE at the relocation site, there would be no impact to any historic architectural resources.

Excavation activities are not anticipated to disturb archeological resources. However, in the event historically or archeologically significant materials (or evidence thereof) are discovered during the implementation of the project, the project shall be halted until such time as FEMA, in consultation with the State Historic Preservation Office, can determine the effect the action will have on the resource.

### ***Alternative 4 – Relocation of Arch at Briarhill Boulevard***

All activities would occur within the APE of the original arch site.

The older residential dwellings and gas station in the APE do not appear to be architecturally significant. As a result, there would be no impacts to architectural resources under this alternative.

Excavation activities are not anticipated to disturb archeological resources. However, in the event historically or archeologically significant materials (or evidence thereof) are discovered during the implementation of the project, the project shall be halted until such time as FEMA, in consultation with the State Historic Preservation Office, can determine the effect the action will have on the resource.

The following mitigation measures would be required for the implementation of the Proposed and Alternate Action alternatives:

***Geology, Topography, and Soils***

1. Reconstruction of the Wilkeson Arch would conform to the Washington Uniform Building Code for Seismic Zone 3.
2. If project activities include the piling of soil or fill on-site, the project applicant would cover these soils to help prevent fugitive dust and increased soil erosion.
3. Erosion control measures such as silt fences and hay bails would be installed prior to initiation of construction activities and would be maintained throughout the tenure of the activities.
4. After construction activities are concluded, all bare soils would be seeded with native grasses and mulched with straw to prevent future soil erosion.

***Water Resources and Water Quality***

1. If project activities include the piling of soil or fill on-site, the project applicant would cover these soils to help prevent fugitive dust and increased soil erosion.
2. Erosion control measures such as silt fences and hay bails would be installed prior to initiation of construction activities and would be maintained throughout the tenure of the activities.
3. Equipment would be properly maintenance and cleaned regularly to minimize potential affects of pollution associated with heavy machinery.
4. Any and all releases of petroleum fuels and fluids would be contained and removed in a manner that would prevent their discharge to waters and soils of the state. The cleanup of spills would take precedence over other work at the site.
5. Any cement remaining after pouring the footers shall be returned to its point of origin for recycling. Cement waste would not be disposed of by allowing it to run out onto the ground.

***Air Quality***

1. Construction areas would be watered down when necessary to prevent fugitive dust emissions.
2. Running time of fuel-burning equipment would be minimizes to reduce the emission of criteria pollutants.

***Hazardous Materials***

1. Any hazardous materials discovered, generated or used during implementation of the proposed project would be disposed of and handled by the applicant in accordance with applicable local, state, and Federal Regulations.

***Zoning and Land Use***

1. Permissions and/or land acquisition from the county and state would be obtained prior to the initiation of construction activities.
2. If applicable, the applicant would apply for and obtain all zoning permits necessary from Pierce County.

***Visual Resources***

1. Using photo-recording and historical photographs, the arch would be reconstructed as close to original as possible.

***Noise***

1. Construction activities would occur during normal business hours.

***Safety and Security***

1. All construction activities would be conducted by trained personnel in compliance with the standards and regulations of OSHA to protect worker safety.
2. Appropriate signage and fencing would be employed to alert pedestrians and motorists of project activities, and changes in traffic patterns.
3. The columns of the arch would be reconstructed a minimum of 17-feet from the centerline of SR #165. Appropriate signage and guardrails would be constructed within the span of the arch no less than 15-feet from the centerline.

***Cultural Resources***

1. In the event that archaeological resources are uncovered during construction activities, all work on site will stop until FEMA, in consultation with the SHPO, can determine affects to those resources.

Washington State Department of Natural Resources (WSDNR), 2001a.

<http://www.wa.gov/dnr/htdocs/ger/lowland.htm>

University of Washington, 2001. <http://spike.geophys.washington.edu/recenteqs/Maps/122-47.html>

Washington State Department of Natural Resources (WSDNR), 2001b.

<http://www.wa.gov/dnr/htdocs/ger/lowland.htm>

United States Geologic Survey (USGS), 1996. Wilkeson Quadrangle Washington-Pierce County 7.5 Minute Series Map

United States Department of Agriculture (USDA), 1979. Soil Survey of Pierce County Area, WA. USDA Natural Resource Conservation Service. February, 1979

Environmental Protection Agency (EPA), 2000a.

<http://www.epa.gov/iwi/hucs/17110014/score.html>

Environmental Protection Agency (EPA), 2000b.

<http://www.epa.gov/iwi/hucs/17110014/indicators/indicator1.html>

Environmental Protection Agency (EPA), 2000c.

[http://www.epa.gov/iwi/303d/17110014\\_303d.html](http://www.epa.gov/iwi/303d/17110014_303d.html)

Golding, S and Johnson, A, 2001. Reevaluation of Copper Impact from Wilkeson Wastewater Treatment Plant on Wilkeson Creek. Washington State Department of Ecology. Publication No. 01-03-021. May, 2001.

Federal Emergency Management Agency (FEMA). 1982. Flood Insurance Rate Map. Town of Wilkeson, Washington. Community Panel Number 530268 0001 A. Effective Date: March 1, 1982

Environmental Protection Agency (EPA), 2001a.

<http://www.epa.gov/oar/oaqps/greenbk/ancl.html#WASHINGTON>

Environmental Protection Agency (EPA), 1999.

<http://www.epa.gov/iwi/hucs/17110014/canindicators/indicator16.html>

Washington Department of Fish and Wildlife (WDFW), 1999.

<http://www.wa.gov/wdfw/hab/phslist.htm>

United States Fish and Wildlife Service (USFWS), 2001.

[http://ecos.fws.gov/nwi\\_mapplet/?map=572183|5217587|803:4-11000110-0000000000000000-000-ZU10](http://ecos.fws.gov/nwi_mapplet/?map=572183|5217587|803:4-11000110-0000000000000000-000-ZU10)

Environmental Protection Agency (EPA), 2001b.

<http://oaspub.epa.gov/surf/surffac?huc=17110014&ldip=05&name=Puyallup>

Environmental Protection Agency (EPA), 2001c.

<http://oaspub.epa.gov/surf/surffac?huc=17110014&ldip=01&name=Puyallup>

Pierce County, 2001.

[http://triton.co.pierce.wa.us/scripts/esrimap.dll?name=map&Left=1253176&Bottom=647731&Right=1256166&Top=651777&xx=1255445&yy=649755&mi=0&map\\_tool=IDENTIFY&dst\\_mi](http://triton.co.pierce.wa.us/scripts/esrimap.dll?name=map&Left=1253176&Bottom=647731&Right=1256166&Top=651777&xx=1255445&yy=649755&mi=0&map_tool=IDENTIFY&dst_mi)



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Pierce County, 1999. <http://www.co.pierce.wa.us/services/home/property/pals/pdf/rsumm.pdf>

ELB & Associates, 1997. <http://www.garlic.com/~pburnett/noise.htm>

### ***Personal Communications***

Schavlik, Ron. Assistant State Conservationist, USDA NRCS. Communications with Tom Hay, Environmental Specialist, FEMA on October 9, 2001

Perry, Dale. Wilkeson Council Member, Town of Wilkeson. Communications with Tom Hay, Environmental Specialist, FEMA on September 24, 26, and October 3, 2001

Bennet, Steve. Traffic Operation Engineer, WSDOT. Communications with Tom Hay, Environmental Specialist, FEMA on October 1, 11, and 16, 2001

### ***Consultations***

Dale Perry  
Council Member  
Town of Wilkeson

Jack Gossett  
Project Manager  
USACE Regulatory Branch

Yvonne Detlaff  
USFWS

Gordon Zillges  
National Marine Fisheries Service

Ron Schavlik  
Assistant State Conservationist  
USDA NRCS

Gregory Griffith  
Deputy State Historic Preservation Officer  
SHPO

Jay Willenberg  
Puget Sound Clean Air Agency

Sue Patnude  
Regional Habitat Program Manager  
Washington Department of Fish and  
Wildlife (Region 6)

Margaret Hill  
Washington Department of Ecology (Water  
Quality Division)

Bob Warren  
Project Manager  
Washington Department of Ecology  
(Hazardous Waste Division)

Steve Bennett  
Traffic Operation Engineer  
WSDOT

Bob Witzl  
Director of Planning and Land Services  
Pierce County (Planning and Land Services  
Development Cente

## **Appendix A**

### **Agency Correspondence**



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
SEATTLE DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 3755  
SEATTLE, WASHINGTON 98124-3755

OCT 1 2001

Regulatory Branch

Federal Emergency Management Agency  
ATTN: Tom Hay, Environmental Specialist  
Region X Disaster Field Office  
625 Black Lake Blvd SW, Suite 200  
Olympia, Washington 98502

Reference: 2001-4-01067  
Federal Emergency  
Management Agency

Gentlemen:

We have reviewed your proposal to relocate the Wilkeson Arch, in Wilkeson, Washington.

An evaluation of the information and photographs you provided in your letter dated September 27, 2001, indicates that this project is not within the regulatory jurisdiction of the U.S. Army Corps of Engineers as you are not placing any fill in waters of the United States or installing any structures in navigable waters of the United States. You do not need a Department of the Army permit to complete the project as depicted in your letter.

This letter does not obviate your compliance with other Federal, State or local statutes, ordinances, or regulations that may affect this work. If you have questions or comments, please contact Mr. Jack Gossett at the letterhead address or by telephone at (206) 764-6902.

Sincerely,

Ann Uhrich, Chief  
Application Review Section



State of Washington  
**DEPARTMENT OF FISH AND WILDLIFE**

Region 6 Office: 48 Devonshire Road - Montesano, Washington 98563-9618 - (360) 249-4628

October 4, 2001

FEMA  
ATTENTION: Tom Hay  
625 Black Lake Blvd. Suite 200  
Olympia, WA 98502

Dear Mr. Hay:

**SUBJECT: Town of Wilkeson entrance arch on SR 165, Pierce County, WRIA 10**

The Washington Department of Fish and Wildlife (WDFW) has reviewed the proposed relocation of the Wilkeson town arch. The WDFW foresees no impacts to fish or wildlife habitats related to this project.

This proposed project will not require any WDFW permits.

Thank you for the opportunity to provide this information. If you have any questions, please contact me at (360)902-8304

Sincerely,

A handwritten signature in black ink, appearing to read "Marc W. Wicke".

Marc W. Wicke  
Area Habitat Biologist

MWW:mww

cc: Sue Patnude, WDFW



STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

P.O. Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

October 9, 2001

Mr. Tom Hay  
Environmental Specialist  
Federal Emergency Management Agency  
Region X, Disaster Field Office  
625 Black Lake Blvd SW Suite200  
Olympia, WA 98502

Dear Mr. Hay:

I have reviewed the Federal Emergency Management Agency (FEMA) proposal for relocation and reconstruction of the Wilkeson Arch in Wilkeson. I have the following comments:

Discharges of sediment-laden runoff or other pollutants to waters of the state is in violation of Chapter 90.48, Water Pollution Control and WAC 173-201A, Water Quality Standards for Surface Waters of the State of Washington, and is subject to enforcement action.

Erosion control measures must be in place prior to any clearing, grading, or construction. These control measures must prevent soil, which is a recognized pollutant, from being carried into surface waters of the state.

Any and all releases of oils, hydraulic fluids, fuels, other petroleum products, and other deleterious materials must be contained and removed in a manner that will prevent their discharge to waters and soils of the state. The cleanup of spills should take precedence over other work on the site.

In accordance with RCW 46.61.655(4) vehicles shall be cleaned of mud, rock, and other material before entering a paved public highway so that tracking onto the highway does not occur.

Any cement remaining after pouring the cement footings shall be returned to its point of origin for recycling. Cement waste should not be disposed of by allowing it to run out onto the ground.

If you have any questions please call me at (360) 407-0246.

Sincerely,

Margaret Hill  
Environmental Specialist  
SWRO Water Quality Program

MH:jr



## **Appendix B**

### **Biological Assessment**

**Biological Assessment for  
Wilkeson Arch Relocation and Reconstruction Project  
Wilkeson, Washington  
FEMA-1361-DR-WA, PW No. 53  
September 2001**

(Prepared by Regional Environmental Office, FEMA Region X)

**I. PURPOSE**

The Town of Wilkeson has requested Federal funding under FEMA's Public Assistance program to relocate and reconstruct the Wilkeson Arch, in the town of Wilkeson, Pierce County, WA. The arch, originally constructed in 1926, consisted of a large wooden horizontal member supported by two sandstone columns spanning State Road (SR) #165 at the northwestern entrance to the town. The arch was damaged by the Nisqually earthquake of February 28, 2001, and was partially removed from the site after concerns over motorist safety were raised. The Town of Wilkeson has applied for funding from FEMA to relocate and reconstruct the arch.

**II. DESCRIPTION OF SITE SPECIFIC ACTIVITIES**

The proposal involves disassembling the western sandstone column that remains standing and reassembling the arch in a new location. This would involve the use of heavy-equipment, the excavation of approximately 5 cubic yards of previously disturbed roadside soils, and the destruction of approximately 300 square feet of roadside vegetation. Approximately 64 square feet of roadside habitat would be recovered from the original arch location after the disassembly of the western column. A new wooden horizontal member approximately 30-inches in diameter and at least 46-feet long would be harvested to replace the original member.

**III. LIST OF SPECIES**

The U.S. Fish and Wildlife Service (USFWS) has identified the following species in Pierce County as threatened or endangered as of April 26, 2001:

**Bald eagle** (*Haliaeetus leucocephalus*) – Listed threatened; wintering and nesting Bald eagles occur in the county from late October to mid-August

**Gray wolf** (*Canis lupus*) – Listed endangered; may occur in the county

**Grizzly bear** (*Ursus arctos horribilis*) – Listed threatened; may occur in the county

**Marbled murrelet** (*Brachyramphus marmoratus*) – Listed as threatened; nesting murrelets occur in the county from early April to mid-September

**Northern Spotted Owl** (*Strix occidentalis caurina*) – Listed as threatened; may occur in the county throughout the year

**Bull Trout** (*Salvelinus confluentus*) – Listed as threatened; known to occur in the county

**Water howellia** (*Howellia aquatilis*) – Listed as threatened; known to occur in the county

Additional information provided to FEMA geographically delineates populations and assessed priority habitat for threatened and endangered (T&E) species. This database, maintained by USFWS and last updated March 21, 2001, indicates no T&E species occur within a 1-mile radius of the proposed and alternate action sites (See Map (not available to the general public)). The identified species and habitat near Wilkeson is summarized below:

**Federally Listed T&E Species Sightings:**

None

**State Listed Species of Concern Sightings:**

Great Blue Heron (*Ardea herodias*) – sighting located approximately 4000 feet south of the center of town

**Identified Species Habitat:**

Elk (*Cervus elaphus*) – approximately 300 acres of priority habitat identified for this state-listed species over 3000 feet south and southeast of the center of town

**Other Identified Habitat:**

Urban Natural Open Space (UNOS) – approximately 275 acres identified outside town limits to the east as close as 1200 feet from the center of town.

Riparian Zones (RIPAR) – approximately 70 acres identified outside town limits to the northwest as close as 2000 feet from the center of town.

Wetlands (WET) - approximately 30 acres identified outside town limits in three areas: 1) approximately 4800 feet west of town center, 2) approximately 4800 feet north-northwest of town center, 3) approximately 4000 feet east of town center.

#### **IV. DESCRIPTION OF ACTION AREA**

The project will be located at two of three alternative sites within the town of Wilkeson, or just outside town limits (See Map). The first site, the original arch location, will experience construction activities regardless of the decision to execute the proposed or alternate actions. The second site, the proposed action, is located near the center of Wilkeson near the intersection of SR 165 and Hill Street. The third site, an alternate action, is located northwest of the town near the intersection of SR 165 and Johns Road. The other alternative action would reconstruct the arch at the original arch site. The potential for impact is being evaluated for all three sites.



## Site 1: Original Arch Location

Before the earthquake, the arch stood at the northwest extent of Wilkeson at the intersection of SR 165 and Briarhill Boulevard. North and northwest of this site, approximately 200 feet from the remaining column, is Wilkeson Creek. North of the creek is a cemetery containing primarily cultivar grasses and small ornamental trees. Adjacent to the Creek and west of the remaining column is the Wilkeson wastewater treatment plant. A narrow vegetated buffer dominated by relatively mature Bigleaf maple and a regularly groomed lawn of cultivar grasses separates the column from the treatment plant and creek. Further west and south is a steep slope containing a mixture of mature Douglass Fir, Western Cedar, Red Alder, and Bigleaf Maple. East and southeast of the site is the predominantly urban residential town of Wilkeson, dominated by cultivar grasses, small ornamentals, and a few mature Douglass fir.



View showing vegetation along Wilkeson Creek



View showing vegetated buffer between site and wastewater treatment plant



View showing habitat to be disturbed: predominantly groomed cultivar grasses. Beyond, a commercial gas station



View showing urban residential vegetation. Mature vegetation behind residence associated with Wilkeson Creek

## Site 2: Relocation Near Intersection of Hill Street and SR #165

The proposed site for relocation is near the center of Wilkeson. This site is bordered on the east by a residential neighborhood of Wilkeson. To the west is a relatively mature and extensive forest containing Douglass Fir, Western Cedar, Red Alder, and Bigleaf Maple. Northwest and southeast of this site is SR #165.



View from proposed arch location looking northwest



View from proposed arch location looking southeast



View from proposed arch location looking west. View of relatively mature mixed forest stand.



View from proposed arch location looking east. View of urban habitat immediate in immediate vicinity.

### Site 3: Relocation Near Intersection of Johns Road and SR #165

East of this site, approximately 20-feet, is a recently regenerated stand of Douglass fir heavily overgrown with blackberry. The stand comprises at least 20 acres. West of the site, approximately 20 feet from SR #165, is a moderately mature stand of Douglass fir and Western hemlock. The area between the road and the forest is populated by Oregon olive. Activities would require the removal of approximately 10 specimens of Oregon Olive.



View from alternate arch location looking north



View from proposed arch location looking south



View from proposed arch location looking east. View of recently regenerated stand of Douglass fir



View from proposed arch location looking west. View of narrow stand of fir and hemlock and Oregon olive

## **V. EFFECTS OF PROPOSED ACTIONS ON PROPOSED/LISTED SPECIES**

In response to the list and spatial data generated by USFWS, FEMA assessed the potential of the project to affect proposed and listed species. The State of Washington Department of Fish and Wildlife (WDFW) and National Marine Fisheries Service (NMFS) were consulted to assist in the determination of effects.

Based on the magnitude of disturbance that is anticipated from the relocation and reconstruction of the Wilkeson Arch, and proximity of the proposed and alternate relocation sites to known species habitat, FEMA has determined that there would be no impacts to any threatened, endangered, or proposed species, or priority habitat.

The WDFW is in concurrence with FEMA's determination. Consultation with NMFS is ongoing.

## **VI. MITIGATION MEASURES**

Best management practices (BMPs) for typical construction projects would be adequate to protect the surrounding habitat. Some of these mitigation measures would include:

1. If project activities include the piling of soil or fill on-site, the project applicant would cover these soils to help prevent fugitive dust and increased soil erosion.
2. Erosion control measures such as silt fences and hay bails would be installed prior to initiation of construction activities and would be maintained throughout the tenure of the activities.
3. After construction activities are concluded, all bare soils would be seeded with native grasses and mulched with straw to prevent future soil erosion.
4. Equipment would be properly maintained and cleaned regularly to minimize potential effects of pollution associated with operating heavy machinery.
5. Any and all releases of petroleum fuels and fluids would be contained and removed in a manner that would prevent their discharge to waters and soils of the state. The cleanup of spills would take precedence over other work at the site.
6. Any cement remaining after pouring the footers shall be returned to its point of origin for recycling. Cement waste would not be disposed of by allowing it to run out onto the ground.
7. Any hazardous materials discovered, generated or used during implementation of the proposed project would be disposed of and handled by the applicant in accordance with applicable local, state, and Federal Regulations.

## **VII. FINAL CONCLUSION ON EFFECTS TO LISTED SPECIES AND PRIORITY HABITAT**

Based on the information provided in this document, FEMA has determined this project would have "no effect" on bald eagles, gray wolves, grizzly bears, marbled murrelet, northern spotted owls, bull trout, or Water howellia.